CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2002-0065

AMENDMENT OF WASTE DISCHARGE REQUIREMENTS
ORDER NO. 95-175

WEST COUNTY LANDFILL, INC.
WEST CONTRA COSTA SANITARY LANDFILL, INC.
REPUBLIC SERVICES, INC.
BAY SOIL REMEDIATION, INC.

BAY SOIL REMEDIATION - THERMAL SOIL TREATMENT FACILITY
WEST CONTRA COSTA SANITARY LANDFILL, CLASS II WASTE MANAGEMENT FACILITY
RICHMOND, CONTA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds:

SITE LOCATION AND DESCRIPTION

1. The 3.2 acre Bay Soil Remediation Thermal Soil Treatment Facility (TSTF) is located on a closed portion of the West Contra Costa Sanitary Landfill (WCCSL) Class II waste management facility. The facility is located in the area north of Interstate 580 and the Richmond-San Rafael Bridge along the San Pablo Bay shoreline at the west end of Parr Boulevard, as shown in Figure 1.

2. The TSTF, which is now inoperable, was utilized to treat soil contaminated with petroleum hydrocarbons, coal tars, and creosote. The facility was designed to process an average of 250,000 tons of soil annually. Prior to processing, soil treated at the TSTF was characterized utilizing laboratory analyses. After treatment, the soil was further analyzed to confirm that chemical concentration levels are below cleanup levels protective of ecological and human health. Treated soil was utilized at the WCCSL as interim/daily cover and for foundation material within the final cover.

PURPOSE OF ORDER

3. The purpose of this amendment of Waste Discharge Requirements is to modify the dischargers named in Order No. 95-175 and to coordinate closure of the area of WCCSL beneath the former TSTF with the remainder of the WCCSL.

BASIS FOR ORDER AMENDMENT

4. TPS Technologies, Inc., which was named on previous orders for the facility, was the original owner and operator of the TSTF. TPS sold the TSPF to West County Landfill, Inc. in April 2000 and no longer has an ownership interest in the facility. West County Landfill, Inc. assigned operation of the TSTF to Bay Soil Remediation. West County Landfill, Inc. and West Contra Costa Sanitary Landfill, Inc. were purchased by Republic Services in May 2001.

5. The WCCSL Class II facility will cease accepting waste in early 2004, and will achieve final closure in 2003. Final cover has been installed beneath the TSTF in accordance with the 1994 final closure plan for WCCSL. However, settling of landfill waste material and underlying strata may have impacted the integrity of the final cap. The mass of the TSTF and the treated soil may have also impacted the integrity of the cap. These factors necessitate an evaluation of landfill cap integrity beneath the TSPS site and the remainder of the WCCSL facility.

6. This amendment is exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15301, Title 14 of the California Code of Regulations.

7. The Board has notified the dischargers and interested agencies and persons of its intent to amend the Waste Discharge Requirements, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

8. The Board, in a public meeting, heard and considered all comments pertaining to this amendment of Waste Discharge Requirements.

IT IS HEREBY ORDERED THAT:

1. Page 1, Paragraph 1 of the WDRs Order No. 95-175 is amended as follows:

   "West Contra Costa Sanitary Landfill, Inc., and TPS Technologies submitted a Report of Waste Discharge (ROWD) to the Board on March 3, 1995, for the design, construction, and operation of a Thermal Soil Treatment Facility (TSTF) to process soils contaminated with petroleum hydrocarbons, coal tars, and creosote at the West Contra Costa Class II Landfill (WCCSL). TPS sold the TSPF to West County Landfill, Inc. in April 2000 and no longer has an ownership interest in the facility. West County Landfill, Inc. and West Contra Costa Sanitary Landfill, Inc. were purchased by Republic Services, and operation of the TSTF was assigned to Bay Soil Remediation. West County Landfill, Inc., West Contra Costa Sanitary Landfill, Inc., Republic Services, Inc., and Bay Soil Remediation are hereinafter referred to as Dischargers."

2. Provision C.8.a shall be added to page 20, after Provision 8 of WDRs Order No. 95-175, as follows:

   "The Dischargers shall submit a **Report Evaluating Landfill Cap Integrity, Landfill Stability, and Final Grade** acceptable to the Executive Officer which supplements the 1994 closure plan for the WCCSL. The report shall evaluate factors that may affect cap integrity, landfill stability, and final grades including, but not limited to, the effect of landfill settlement, increased mass of waste, and variances in leachate levels within the landfill and adjacent to the TSTF facility. The report shall propose any changes necessary to the 1994 closure plan and include a schedule to implement the changes.

   Due Date: December 1, 2002"

3. Provision C.8.b shall be added to page 20, after Provision 8.a of WDRs Order No. 95-175, as follows:

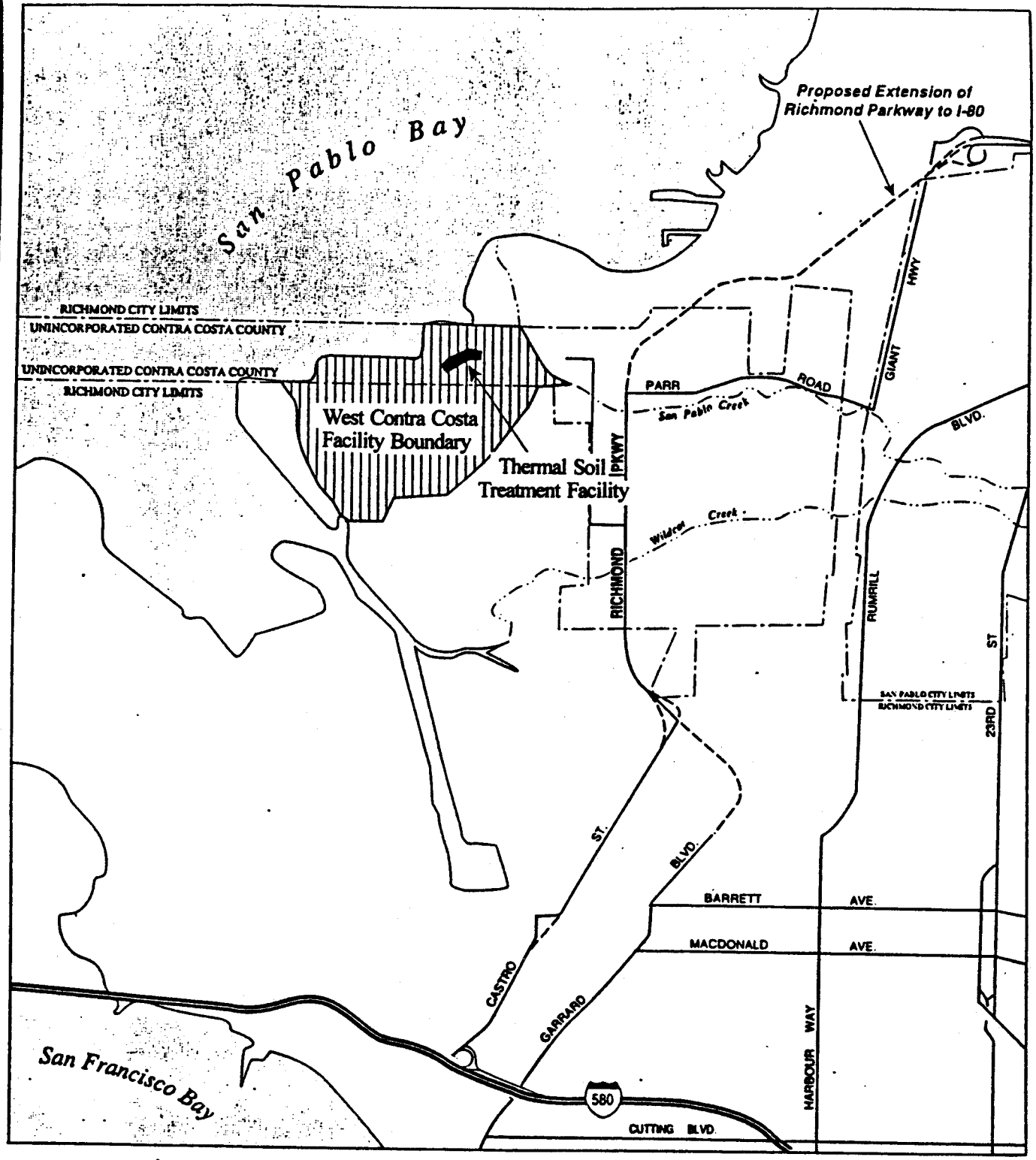
   "The Dischargers shall submit a **Report Documenting Implementation of Modifications to Landfill Cap and Final Grades** acceptable to the Executive Officer which documents completion of approved changes to the 1994 closure plan and as implemented at the site as proposed in Provision C.8.a.

   Due Date: December 1, 2004"

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on June 19, 2002.

Loretta K. Barsamian
Executive Officer

Attachment: Figure 1, Site Location Map



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

Figure 1
Site Location Map
Thermal Soil Treatment Facility
West Contra Costa Class II Landfill
Richmond, Contra Costa County

DRAWN BY: JMR	DATE: 8-23-95	DRWG. NO. 95175-1

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. R2-2002-0066

**UPDATED WASTE DISCHARGE REQUIREMENTS AND
RESCISSION OF ORDER NO. 96-079 FOR:**

**WEST COUNTY LANDFILL, INC.
WEST CONTRA COSTA SANITARY LANDFILL, INC.
REPUBLIC SERVICES, INC.**

**WEST CONTRA COSTA SANITARY LANDFILL, CLASS II WASTE MANAGEMENT FACILITY
RICHMOND, CONTA COSTA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

DISCHARGERS AND LOCATION

1. Owner, operator, and dischargers named: West County Landfill, Inc. currently owns the West Contra Costa Sanitary Landfill (WCCSL) Class II waste management facility. West Contra Costa Sanitary Landfill, Inc. currently operates the facility. West County Landfill, Inc. and West Contra Costa Sanitary Landfill, Inc. were acquired by Republic Services, Inc. in May 2001. West County Landfill, Inc., West Contra Costa Sanitary Landfill, Inc., and Republic Services, Inc. are hereinafter referred to as the Dischargers.

2. Landfill location and description: WCCSL is located in the area north of Interstate 580 and the Richmond-San Rafael Bridge along the San Pablo Bay shoreline at the west end of Parr Boulevard, as shown in Figure 1. The WCCSL Class II facility consists of approximately 160 acres. Adjacent to the WCCSL Class II facility is the WCCSL Class I landfill, which consists of approximately 28 acres. The Class I and Class II landfills were formed by placing waste upon Bay Muds. Commercial and industrial areas surround the landfill.

PURPOSE OF ORDER UPDATE

3. Update of Waste Discharge Requirements: This order updates Waste Discharge Requirements for the WCCSL to include general provisions and tasks necessary to: 1) complete final landfill closure; 2) modify the dischargers named; 3) evaluate and implement upgrades to the leachate containment and recovery system; 4) evaluate the extent of groundwater contamination detected outside the landfill footprint and implement remedial measures necessary; 5) conduct studies necessary to evaluate stability of landfill materials; and 6) bring the landfill into compliance with the appropriate portions of Title 27 of the California Code of Regulations, referred to hereinafter as Title 27.

SITE DESCRIPTION

4. Waste placement: The WCCSL Class II Landfill began accepting waste in 1953. Upon closing, the total in-place volume of the landfill will exceed 17 million cubic yards and the maximum elevation will be up to 160 feet above sea level. The base of waste has settled up to 25 feet below sea level. The base elevation of the landfill waste varies due to both the depth of the initial excavation and subsidence caused by the weight of the disposed waste.

5. Waste types: Municipal solid waste, industrial waste, construction and demolition debris, sewage sludge, and self-hauled waste is disposed at the facility. In addition, petroleum contaminated soils, treated auto shredder waste, sewage and wastewater treatment sludge and grit are accepted for disposal. Municipal solid waste accounts for approximately 70 percent of the waste disposed. No hazardous wastes other than asbestos and infectious wastes are permitted for disposal at the WCCCSL Class II landfill.

6. Leachate barrier walls: No bottom liner was installed beneath the landfill, consistent with landfill practices at the time of filling. The landfill is underlain by Bay Mud sediments, which are composed primarily of clay and clayey silt of low permeability. The Bay Mud prevents the downward vertical migration of landfill leachate. Horizontal migration of leachate is prevented by a low-permeability Bay Mud barrier wall constructed in 1977-78, which surrounds the entire WCCSL site. Because subsequent investigations indicate the presence of sand channels beneath the mud barrier, sections of the original Bay Mud barrier were replaced by a soil-cement-bentonite barrier. The Bay Mud barrier and the soil-cement-bentonite barrier have hydraulic conductivities of $1x10^{-6}$ cm/s or less, a

minimum thickness of three feet, and are keyed into the underlying bay mud a minimum of five feet.

7. Leachate extraction and monitoring: The volume of leachate accumulated within the landfill is estimated at approximately 150 million gallons. Leachate is captured by a network of five leachate extraction areas within the waste along the landfill perimeter. Each extraction area consists of several leachate wells connected by French drain to a central extraction sump. The extracted leachate is discharged to the West County Wastewater District treatment plant. The leachate extraction system is designed to create an inward hydraulic gradient. However, because the landfill has not been allowed to discharge high volumes of the leachate to the POTW due to the high levels of chloride salts, the landfill has been unable to create an inward hydraulic gradient. Upon completion of a leachate pipeline linking the WCCSL leachate discharge pipeline with the West County Waste Water District sludge lagoons high volumes of leachate can be discharged to the POTW. The new pipeline will allow higher leachate extraction rates and creation of the inward hydraulic gradient at the landfill. The pipeline is scheduled for completion in mid-2002. Leachate is analyzed on a monthly and quarterly basis to evaluate water quality parameters. It is expected that the volume of leachate generated at the landfill will be reduced when final closure of the landfill is completed in 2003-4.

8. Landfill settlement and closure: The Dischargers submitted a closure plan dated September 1994, and revisions in 1995. Board staff approved the closure plan in 1996. The 1994 closure plan and 1995 revisions proposed phased closure of the landfill such that a portion of the final cap would be installed annually over portions of the landfill until reaching final grade. It was estimated in the 1994-95 closure plan, based on projected filling rates, that final closure would be achieved in 1998. Although phased closure has proceeded, final closure of the entire landfill has not been achieved due to settling of waste material and the underlying strata. The dischargers now project that WCCSL landfill will reach fill capacity in 2006. This order requires the dischargers to stop all disposal of waste by January 2006.

   The landfill has settled approximately 35 feet into the bay mud. Because of landfill settlement and the increased mass of waste placed in the landfill, as well as the potential affects on leachate migration and control systems, it is necessary to re-evaluate previously established surface grades and the strength of landfill waste and underlying strata. Should the re-evaluation indicate unstable conditions and potential water quality problems, the Board may require that the discharger cease accepting waste for disposal at the landfill prior to January 2006.

9. Landfill cap: The final cover design detailed in the Dischargers' 1994-95 closure plan is comprised of: 1) a foundation layer of 2 feet minimum thickness consisting of clean soil or treated soil from the onsite thermal soil treatment facility, placed above compacted waste; 2) a low permeability layer of 1 foot minimum thickness with a hydraulic conductivity of 1×10^{-6} cm/s or less; and 3) a protective/vegetative soil layer of 1 foot minimum thickness. The surface of the landfill will be graded to prevent ponding and promote runoff.

10. Composting Operations: The Dischargers currently operate a green waste composting facility on a portion of the landfill over which interim cover has been placed. The Board approved operation of and construction of the composting facility provided that the interim cover underlying the composting facility meet final cover requirements for thickness, permeability, and grading as outlined in the 1994 closure plan. The dischargers has proposed continued operation of the composting facility after landfill closure is completed.

11. Thermal Soil Treatment Facility: A Thermal Soil Treatment Facility (TSTF) is located on a closed portion of the WCCSL Class II landfill. The facility, which is now inoperable, was utilized to thermally treat soils impacted with petroleum hydrocarbons. Separate Waste Discharge Requirements adopted by the Board for the facility (Board Order Nos. 95-175 and 96-067) address only the portion of WCCSL Class II landfill beneath the TSTF. The final cover design and closure requirements specified in the orders for TSTF are compatible with the requirements set forth in this Order.

12. Class I waste facility: The WCCSL Class II landfill bounds the majority of the perimeter of the WCCSL Class I Hazardous Waste Management Facility (HWMF). The HWMF, which is overseen by the California Department of Toxic Substances Control (DTSC), is inactive and the final cover is under construction. A slurry wall installed along the perimeter of the HWMF and a leachate collection and removal system installed in the interior of the HWMF are designed to prevent leachate migration by creating an inward hydraulic gradient. However, as with the Class II landfill, the Class I landfill has not been allowed to discharge high volumes of treated leachate to the POTW due to the high levels of chloride salts. As a result an inward hydraulic gradient has not been created within the Class I landfill. Once the leachate pipeline linking WCCSL to the West County Waste Water District sludge lagoons is constructed leachate may be extracted at higher rates and the inward hydraulic gradient can be created.

REGULATORY HISTORY

13. Previous Orders: The Regional Board adopted 10 separate Waste Discharge Requirements orders for the landfill between 1976 and 1996. The orders include:

- Order Nos. 76-028, 78-009, 79-114 - Waste Discharge Requirements addressing operation and monitoring at both the Class I HWMF and the Class II portions of the WCCSL;
- Order Nos. 88-109, 88-172, and 89-025 - Waste Discharge Requirements addressing operation and monitoring of the Class II portion of the WCCSL
- Order No. 96-079 - Waste Discharge Requirements addressing operation, monitoring, and closure of the Class II portion of WCCSL
- Order Nos. 95-175 and 96-097 - Waste Discharge Requirements addressing operation, monitoring, and closure of the Thermal Soil Treatment Facility on the Class II portion of WCCSL

SITE GEOLOGIC AND HYDROGEOLOGIC SETTING

14. Stratigraphy: The WCCSL landfill is founded on Bay Mud sediments in the Richmond Basin. Bay Mud is predominantly comprised of interfingering alluvial fan/stream channel and estuarine (bay mud) deposits. Locally, the Bay Mud is divided into Older and younger Bay Mud. The Younger Bay Muds, which generally occur between the surface and depths of approximately 50 feet to 70 feet below MSL (mean sea level), consist of clay and silt units interfingered with more permeable sand and gravel units. The Older Bay Muds, which occur at depths ranging from 50 to 70 feet below MSL to a depth of approximately 100 feet, are primarily composed of clay and silty clay. Sand layers up to twenty feet thick occur at depths greater than 100 feet below MSL. Bedrock is estimated at a depth of approximately 300 feet beneath the site.

15. Surface water: San Pablo Creek is the major surface water drainage in the vicinity of the site, flowing along the northeast boundary of the landfill. The west boundary and portions of the south and northeast boundaries are adjacent to tidal marshlands. The northwest and north boundaries are adjacent to San Pablo Bay.

16. Groundwater: Groundwater beneath the landfill has been classified into four water bearing zones: 1) The surfical zone is the uppermost zone, occurring between +20 and -10 feet MSL. Within the site, much of the surficial zone flows through refuse and fill; 2) The shallow zone underlies the surficial zone and occurs between -10 and -30 feet MSL. This zone contains predominantly naturally occurring Bay Mud sediments, but also contains some waste fill in the areas which have exhibited the largest settlement; 3) the

medium zone underlies the shallow zone and extends from -30 to -60 feet MSL. This zone contains only naturally occurring Bay Mud sediments which are composed predominantly of clay and clayey silt, with occasional sand lenses or layers; 4) the deep zone underlies the medium zone and extends from -60 to -135 feet MSL. The sediments in this zone consist predominantly of clays and silts, with occasional sand lenses or layers. The sand units below -60 feet MSL are generally fewer in number but thicker than those above -60 feet MSL. The surficial, shallow, and medium zones and the uppermost portion of the deep zone beneath the WCCSL contain brackish to saline water and typically exhibit extremely low yields, and therefore have not been used as a source of drinking water. Groundwater in the lower portion of the deep zone (sand units between -113 and 132 feet MSL) has TDS and yield values sufficient to qualify it as a potential drinking water zone.

17. Geologic structure and faulting: No known faults have been mapped at the site. The nearest fault is the San Pedro/San Pablo Fault, which is inferred to pass ¾ of a mile southwest of the site, and is not considered an active fault. Active faults that pose seismic hazards to the site include the Hayward Fault, located approximately 3 miles northeast of the landfill, and the San Andreas Fault, which is approximately 16 miles southwest of the site.

SITE CONTAMINATION AND WATER QUALITY

18. Contamination originating at landfill: Groundwater beneath the landfill contains volatile and semi-volatile chlorinated solvents, benzene, toluene, xylene, and petroleum hydrocarbons as gas and diesel. Levels of metals are generally low. Recently tetrohydrofuran (THF) and tert-butyl alcohols (TBA) and low levels of volatile chlorinated solvents have been detected outside the landfill beyond the barrier mud walls. Contamination is generally limited to the surficial and shallow groundwater zones.

19. Corrective action measures: Extensive groundwater monitoring at the site indicates that elevated groundwater contaminant concentrations are present throughout the landfill. Bay Mud underlying the landfill and leachate extraction has reportedly prevented downward vertical migration of contaminants. However, despite construction of a barrier wall around the landfill perimeter, horizontal migration of contaminants has not been prevented in all areas. The horizontal migration of contaminants may be due to lack of final cap, a build up of leachate, and insufficient leachate extraction rates. A landfill gas collection system prevents buildup of landfill gas within the landfill.

21. Board Resolution No. 89-39: Board Resolution 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas containing high TDS (greater than 3000 mg/l TDS), high background contaminant levels, or those areas with a low-yield. Some groundwater underlying and adjacent to the site qualifies as a potential source of drinking water, although there is no current use of the site's groundwater, nor any anticipated plans for its use.

BASIN PLAN

22. The Regional Board adopted a revised Water Quality Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The State Water Resource Control Board and the Office of the Administrative Law approved the revised Basin Plan on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

BENEFICIAL USES

23. The beneficial uses of groundwater beneath the landfill include:

    a. Domestic and municipal supply (deeper than -100 feet msl)
    b. Agricultural supply (deeper than -100 feet msl)
    c. Industrial process and service supply (deeper than -100 feet msl)
    d. Discharge to San Pablo Bay and wetlands surrounding the site

24. The beneficial uses of San Pablo Creek in the vicinity of the landfill include:

    a. Wildlife and estuarine habitat
    b. Non-contact water recreation
    c. Fish migration and spawning
    d. Preservation of rare and endangered species
    e. Shellfish harvesting

25. The beneficial uses for San Pablo Bay in the vicinity of the landfill include:

    a. Industrial service supply
    b. Navigation
    c. Contact and non-contact recreation

d. Commercial and sport fishing
e. Wildlife and estuarine habitat'
f. Preservation of rare and endangered species
g. Fish migration and spawning
h. Shellfish harvesting

MONITORING PROGRAMS

26. Groundwater Monitoring – Thirty-nine groundwater monitoring wells are located at the landfill perimeter and in interior areas: E21R1, E34R, M4, M6, M9, M16R, M22, M24, M27, M41, M43, M45, M47, M48, M50, M51, M52, M53, M54, M55, M56, M57, M58, M59, M60, M61, M62, M63, M64, M65, M66, M67, M68, M69, M70, M71, M-72, M73, and M74. Piezometers are also located along the landfill perimeter: Q3, Q9, Q11, M23, M25, M26, M42, M44, M46, M49, and MPZ-1. The monitoring wells and piezometers are utilized to monitor the surficial, shallow, and medium water bearing zones.

27. Leachate Monitoring - 30 leachate wells are located within the interior of the landfill: QR2, QR3, QR5, QR6, QR7S, QR8, QR12, QR15S, QR16, QR17S, QR20S, QR21S, QR22S, QR23, QR24S, QR25S, QR26, QR27, QR28S, QR29S, QR30R, QR31, QR32S, QR33 S, QR36B, QR37, QR38, QR39, QR43, QR44 and E-39. The leachate wells serve to monitor landfill leachate elevations. A subset of the leachate wells are used to monitor chemical concentrations and determine whether landfill waste materials are leaching and impacting groundwater.

28. Surface Water Monitoring –Surface water monitoring is conducted per SWRCB's Industrial Activities Storm Water General Permit.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

29. CEQA: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15301 of the Resources Agency Guidelines.

30. Public notice: The Board has notified the Dischargers and interested agencies and persons of its intent to adopt revised, updated Waste Discharge Requirements for the Dischargers and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

31. Public meeting: The Board, in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Dischargers, their agents, successors and assigns shall meet the applicable provisions contained in Title 27, Division 2, Subdivision 1 of the California Code of Regulations and Division 7 of the California Water Code and shall comply with the following:

A. PROHIBITIONS

1. The relocation of wastes to or from any waste management unit shall not create a condition of pollution or nuisance as defined in Section 13050 (l) and (m) of the California Water Code. Any relocated waste shall not be placed in or allowed to contact ponded water from any source whatsoever. Wastes shall not be relocated to any location where they can be discharged into waters of the State or of the United States.

2. Leachate and ponded water containing leachate or in contact with waste shall not be discharged to waters of the State or of the United States unless specifically authorized under an NPDES permit.

3. Buildup or mounding of leachate levels within the landfill shall be prevented by operation of a leachate extraction system. The depth of leachate shall be kept at levels at or below 0 feet msl or the minimum level necessary to insure efficient operation of the leachate extraction system.

4. The creation of any new waste management units is prohibited without prior Regional Board approval.

5. The Dischargers shall not excavate within or reconfigure any existing waste management unit without prior Regional Board approval.

6. No additional waste shall be deposited or stored at this site after closure is completed.

7. The Dischargers, or any future owner or operator of the site, shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

a. Surface Waters

- Floating, suspended, or deposited macroscopic particulate matter or foam.
- Bottom deposits or aquatic growths.
- Alteration of temperature, turbidity, or apparent color beyond natural background levels.
- Visible, floating, suspended or deposited oil or other products of petroleum origin.
- Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

b. Groundwater

- Further degradation of groundwater quality.
- Substantial worsening of existing groundwater impacts.

8. The Dischargers shall not disc the landfill cap. Alternate methods of controlling vegetative growth, which do not affect the integrity of the landfill cap, shall be utilized.

B. SPECIFICATIONS

1. All reports pursuant to this order shall be prepared under the supervision of a California registered civil engineer, California registered geologist or certified engineering geologist.

2. The site shall be protected from any washout or erosion of wastes or cover material and from inundation that could occur as a result of a 100-year, 24-hour precipitation event, or as the result of flooding with a return frequency of 100 years.

3. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes during the life of the site.

4. The existing containment, drainage, and monitoring systems at the facility, shall be maintained as long as leachate is present and poses a threat to water quality.

5. The Dischargers shall assure that the structures, which control leachate, surface drainage, erosion and gas are constructed and maintained to withstand conditions generated during the maximum probable earthquake.

6. The final cap system shall be graded and maintained to promote lateral runoff and prevent ponding and infiltration of water.

7. The Dischargers shall analyze the samples from any groundwater or leachate wells as outlined in the Discharge Monitoring Program (Attachment A).

8. The Dischargers shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any future Discharge Monitoring Program issued by the Executive Officer.

9. Landfill gases shall be adequately vented, removed from the landfill, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water.

10. The Dischargers shall maintain all devices or designed features installed in accordance with this Order, such that they continue to operate as intended without interruption.

11. The Dischargers shall provide a minimum of two surveyed permanent monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the operation and post-closure maintenance period. A licensed land surveyor or registered civil engineer shall install these monuments.

12. The Regional Board shall be notified immediately of any failure occurring in the waste management unit. Any failure that threatens the integrity of containment features or the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.

13. The Dischargers shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.

14. The Dischargers shall maintain the facility so as to prevent a statistically significant increase in water quality parameters at points of compliance as provided in Section 20420 of Title 27.

15. All monitoring instruments and devices used by the Dischargers to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

C. PROVISIONS

1. The Dischargers shall comply immediately, or as prescribed by the time schedule below, with all Prohibitions, Specifications and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. The Dischargers must also comply with all conditions of these Waste Discharge Requirements. Violations may result in enforcement actions, including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13267, 13268, 13300, 13301, 13304, 13340, 13350].

2. All technical and monitoring reports required pursuant to this Order are being requested pursuant to Section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality acceptable to the Executive Officer may subject the Dischargers to enforcement action pursuant to Section 13268 of the California Water Code.

LEACHATE CONTROLS

3. **ESTABLISHMENT OF INWARD HYDRAULIC GRADIENT AND MINIMIZATION OF LEACHATE BUILDUP**

   COMPLIANCE DATE: September 1, 2003

   The Dischargers shall submit a technical report, acceptable to the Executive Officer, documenting the establishment of an inward hydraulic gradient at the Class II landfill. The inward hydraulic gradient shall be sufficient to maintain minimal leachate levels (as defined in Prohibition A.3) in the landfill and prevent off-site migration of leachate or contaminants. The technical report shall describe the methods utilized to determine the optimum pumping rates and the leachate elevations. If an inward hydraulic gradient has not been established and leachate elevation levels have not been minimized, the report shall include a workplan and schedule for actions necessary to established the required conditions.

4. **IMPLEMENTATION OF ADDITIONAL ACTIONS NECESSARY TO ESTABLISH INWARD HYDRAULIC GRADIENT AND MINIMIZE LEACHATE BUILDUP**

   COMPLIANCE DATE: September 1, 2004

The Dischargers shall submit a technical report, acceptable to the Executive Officer, documenting the implementation of actions necessary to establish an inward hydraulic gradient as described in Provision C.3.

5. **INVESTIGATION WORKPLAN TO DEFINE THE EXTENT OF CONTAMINANTS PRESENT IN GROUNDWATER BEYOND THE LEACHATE CONTAINMENT BARRIER WALLS**

COMPLIANCE DATE: February 1, 2003

The Dischargers shall submit a technical report, acceptable to the Executive Officer, which proposes a scope and schedule of work to define groundwater contamination originating from the Class II Landfill and extending beyond the leachate barrier walls. The workplan shall evaluate historic site conditions and recent leachate system modifications to determine the cause of contaminant migration beyond the landfill and propose collection of groundwater samples utilizing the appropriate methods.

6. **REPORT DOCUMENTING THE RESULTS OF GROUNDWATER INVESTIGATION (PROVISION C.5)**

COMPLIANCE DATE: June 1, 2003

The Dischargers shall submit a technical report, acceptable to the Executive Officer, which documents the results of the investigation, specified in Provision C.5. The report shall describe any variations from the workplan as described in Provision C.5. If necessary, the report shall propose additional investigations necessary to define the extent of groundwater contamination beyond the leachate barriers.

7. **REPORT PROPOSING REMEDIAL METHODS ADDRESSING GROUNDWATER POLLUTION OUTSIDE OF THE LEACHATE BARRIER WALL**

COMPLIANCE DATE: September 1, 2004

The Dischargers shall submit a technical report and schedule, acceptable to the Executive Officer, which evaluates and proposes remedial methods for addressing groundwater pollution beyond the leachate barrier wall.

8. **REPORT DOCUMENTING IMPLEMENTATION OF REMEDIATION ADDRESSING GROUNDWATER POLLUTION OUTSIDE OF THE LEACHATE BARRIER WALL**

COMPLIANCE DATE: February 1, 2005

The Dischargers shall submit a technical report, acceptable to the Executive Officer which documents implementation of remedial actions as described in Provision C.7. The report shall describe any variations from the workplan specified in Provision C.7.

9. **REPORT EVALUATING THE EFFECTIVENESS OF REMEDIAL ACTIONS FOR GROUNDWATER POLLUTION OUTSIDE OF LEACHATE BARRIER WALL**

COMPLIANCE DATE: February 1, 2006

The Dischargers shall submit a technical report, acceptable to the Executive Officer, which evaluates the performance of the remedial actions implemented as described in Provision C.8. The report shall also propose any additional remedial actions if necessary.

LANDFILL STABILITY

10. **REPORT EVALUATING LANDFILL STABILITY**

COMPLIANCE DATE: December 1, 2002

The Dischargers shall submit a technical report, acceptable to the Executive Officer, which supplements the landfill stability evaluation and final grade determination documented in the 1994 closure plan. The report shall evaluate factors including, but not limited to: variances in groundwater and leachate levels within and adjacent to the landfill, final grading plans, interface strengths; static and dynamic slope stability; strengths of waste, subgrade, and cover material. The report shall include an evaluation of underlying material properties and settlement assumptions, engineering calculations, modeling results, and consider alternative methods of design. The report shall also determine whether unstable landfill conditions may result from filling until January 2006, and if shown to be unstable, propose an earlier date to cease filling. The report shall propose any changes necessary to the 1994 landfill closure plan.

11. **INDEPENDENT GEOTECHNICAL PEER REVIEW OF LANDFILL STABILITY EVALUATION**

COMPLIANCE DATE: March 1, 2003

The Dischargers shall submit a technical report, acceptable to the Executive Officer, which provides the results of an independent geotechnical peer review of the landfill stability evaluation described in Task 10. The review shall evaluate the adequacy of the slope stability evaluation pursuant to CCR Title 27, Subchapters 3 and 6. The independent reviewer must certify that they do not have a conflict of interest, direct or indirect, with the Dischargers or parent company. The independent reviewer shall be a California licensed geotechnical engineer. The Board encourages the dischargers to utilize the Association of Bay Area Governments, as an independent body, to coordinate selection and contracting of the independent reviewer at the dischargers' expense.

12. **RESPONSE TO INDEPENDENT GEOTECHNICAL PEER REVIEW OF LANDFILL STABILITY EVALUATION**

COMPLIANCE DATE: May 1, 2003

The Dischargers shall submit a technical report, acceptable to the Executive Officer, which provides a response to all comments and recommendations in the peer review described in Task 11. The response shall include if needed, a workplan to address comments should additional field work or engineering evaluations be warranted.

LANDFILL CLOSURE

13. **REVISED CLOSURE SCHEDULE**

COMPLIANCE DATE: February 1, 2003

The Dischargers shall submit a technical report, acceptable to the Executive Officer, which includes a revised schedule for final closure of the landfill. The schedule shall include provisions to cease all waste disposal at the landfill no later than **January 31, 2006**, and complete final closure no later than **January 31, 2008**. The final closure date of January 31, 2008 shall not be dependent on waste volume received. If necessary, the Dischargers will need to modify final closure grades in order to meet the January 31, 2008 final closure date. The schedule shall propose earlier dates for ceasing waste disposal and completion of final closure if warranted by the report evaluating landfill stability required under Provision C.10.

14. **FINAL CLOSURE REPORT**

COMPLIANCE DATE: April 1, 2008

The Dischargers shall submit a technical report, acceptable to the Executive Officer, which documents final closure of the landfill. Final closure shall be conducted in accordance to the 1994 closure plan, and any modifications to the closure plan as determined necessary in the technical report submitted pursuant to Provision C.10.

LANDFILL MONITORING

15. **ANNUAL MONITORING REPORT**

COMPLIANCE DATE: January 31 of each year

The Dischargers shall submit an Annual Monitoring Report, acceptable to the Executive Officer, by January 31 of each year in accordance with the attached Discharge Monitoring Program (Attachment A). The annual report to the Board shall cover the previous calendar year as described in Part A of the Monitoring Program. In addition to the requirements outlined in Attachment A, this report shall also include the following: location and operational condition of all leachate and groundwater monitoring wells; and a site map delineating groundwater and leachate levels for each monitoring event.

16. **SEMI-ANNUAL MONITORING REPORT**

COMPLIANCE DATE: July 31 and January 31 of each year

The Dischargers shall submit semi-annual monitoring reports, no later than July 31 and January 31 of each year in accordance with the attached Discharge Monitoring Program (Attachment A). The January 31 semi-annual report may be combined with the annual report.

17. **ANNUAL MAINTENANCE REPORT**

COMPLIANCE DATE: July 31 of each year

The Dischargers shall submit a technical report to the Board, acceptable to the Executive Officer, detailing the repair and maintenance activities that need to be completed prior to the commencement of the next rainy season (starting October

15 of each year). This letter report shall also include a description and schedule for repair and maintenance activities, and a cost analysis detailing the anticipated expense for all repairs, maintenance and monitoring during the next 12 months. Repair and maintenance estimates shall be based on rainy season inspections conducted throughout the winter as required in the Discharge Monitoring Program.

18. **WELL INSTALLATION REPORT**

COMPLIANCE DATE: 45 days following completion of well installation activities

The Dischargers shall submit a technical report, acceptable to the Executive Officer, that provides well construction details, geologic boring logs, and well development logs for all new wells installed as part of the Discharge Monitoring Program (Attachment A).

LANDFILL MAINTENANCE AND DEVELOPMENT

19. **CHANGES TO POST-CLOSURE DEVELOPMENT DESIGN**

COMPLIANCE DATE: 120 days prior to any material change in site operations or features

The Dischargers shall prepare and submit a technical report, acceptable to the Executive Officer, describing any material proposed changes to site development, redevelopment projects, site features, or site operations for the landfill. The technical report shall describe the project, identify key changes to the design which may impact the landfill, and specify components of the design necessary to maintain integrity of the landfill cap and prevent water quality impacts. No material changes to the site shall be made without approval by the Executive Officer.

20. **CHANGE IN SITE CONDITIONS**

NOTIFICATION DUE DATE: Immediately upon occurrence
REPORTING DUE DATE: 30 days after initial notification

The Dischargers shall immediately notify the Board of any flooding, ponding, settlement, equipment failure, slope failure, exposure of waste, or other change in site conditions that could impair the integrity of the landfill cap, waste or leachate

containment facilities, and/or drainage control structures and shall immediately make repairs. Within 30 days, the Dischargers shall prepare and submit a technical report, acceptable to the Executive Officer, documenting the corrective measures taken.

21. **STORMWATER CONTROL PLANS**

COMPLIANCE DATE: October 15 of the year of construction or prior to construction if commencing between October 15 and May 15

For each proposed development greater than 5 acres in size, the Dischargers shall submit a Notice of Intent to the State Water Resources Control Board, prepare and submit a Storm Water Pollution Prevention Plan acceptable to the Executive Officer, and implement Best Management Practices (BMPs) for the control of storm water, in accordance with requirements specified in the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activities (NPDES Permit No. CAS000002).

22. The Dischargers shall maintain a copy of these waste discharge requirements and these requirements shall be available to operating personnel at the facility at all times [CWC Section 13263].

23. The Dischargers shall permit the Regional Board or its authorized representative, upon presentation of credentials:

a. Immediate entry upon the premises on which wastes are located or in which any required records are kept.
b. Access to copy any records required under the terms and conditions of this order.
c. Inspection of any treatment equipment, monitoring equipment, or monitoring methods required by this order or by any other California State Agency.
d. Sampling of any discharge or groundwater governed by this order.

24. The Dischargers shall submit, within 90 days after the closure of any portion of the landfill, a closure certification report which documents that the area has been closed according to the requirements of this Order and Chapter 15. The discharger shall certify under penalty of perjury that all closure activities were performed in accordance with the most recently approved closure plan and in accordance with all applicable regulations.

25. In the event of any change in control/operator or ownership of land or parcel of land, or waste discharge facilities presently owned or controlled by the Dischargers, the Dischargers shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. The Dischargers must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this order's responsibility and coverage between the current dischargers and the new discharger. This agreement shall include an acknowledgment that the existing dischargers are liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. [CWC Sections 13267 and 13263]. The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and statement. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

26. This Order is subject to Board review and updating, as necessary, to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics [CWC Section 13263].

27. Where the Dischargers become aware that they failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, they shall promptly submit such facts or information [CWC Sections 13260 and 13267].

28. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Dischargers from his liability under Federal, State or local laws, nor do they create a vested right for the to continue the waste discharge [CWC Section 13263(g)].

29. Provisions of these waste discharge requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected.

30. The Dischargers shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Dischargers to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate

funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this order [CWC Section 13263(f)].

31. Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the Dischargers are in violation of a prohibition in the applicable water Quality Control Plan [CWC Section 13271(a)].

32. The Dischargers shall report any noncompliance that may endanger public health or the environment. Any such information shall be provided orally to the Executive Officer within 24 hours from the time the Dischargers become aware of the circumstances. A written submission shall also be provided within five days of the time the Dischargers become aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours [CWC Sections 13263 and 13267].

33. This Board's Order No. 96-079 is hereby rescinded.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 19, 2002.

Loretta K. Barsamian
Executive Officer

Figures: Figure 1 - Site Location Map

Attachment: Attachment A - Discharge Monitoring Program

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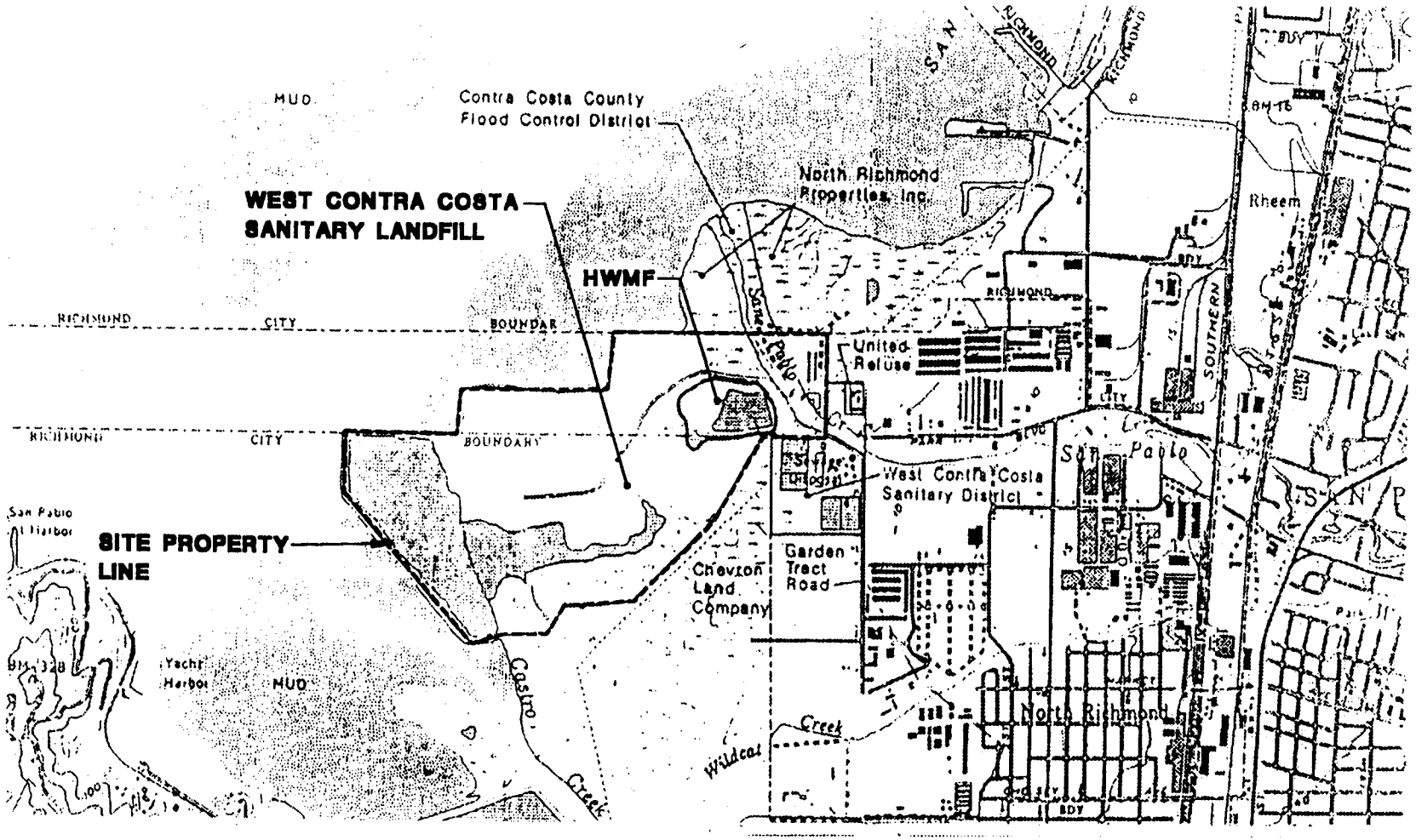

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FIGURE 1
WEST COUNTY LANDFILL, INC.
WEST CONTRA COSTA SANITARY LANDFILL
RICHMOND, CALIFORNIA
SITE LOCATION

ATTACHMENT A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DISCHARGE MONITORING PROGRAM

FOR

WEST CONTRA COSTA SANTITARY LANDFILL
RICHMOND, CONTRA COSTA COUNTY

ORDER NO. R2-2002-0066

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16. This Discharge Monitoring Program is issued in accordance with Title 27 of the California Code of Regulations.

The principal purposes of a discharge monitoring program are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste dischargers in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the dischargers in complying with the requirements of Title 27.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA Standard Methods and in accordance with an approved sampling and analysis plan.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Regional Board shall be signed by a duly authorized representative of the laboratory.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.

2. Receiving waters refers to any surface that actually or potentially receives surface or groundwaters that pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill areas, the surface runoff from the site, and the San Francisco Bay are considered receiving waters.

3. Standard observations refer to:

a. Receiving Waters

1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
2) Discoloration and turbidity: description of color, source, and size of affected area.
3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
4) Evidence of beneficial use: presence of water associated wildlife.
5) Flow rate
6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Perimeter of the waste management unit.

1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
3) Evidence of erosion and/or daylighted refuse.

c. The waste management unit.

1) Evidence of ponded water at any point on the waste management facility.
2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
3) Evidence of erosion, slope or ground movement, and/or daylighted refuse.
4) Adequacy of access road
5) Condition of site drains, silt basin capacity
6) Standard Analysis and measurements are listed on Table A (attached)

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The Dischargers are required to perform sampling, analyses, and observations in the following media:

1. Storm drain discharges per Section 20415
2. Groundwater and leachate per Section 20415

and per the general requirements specified in Section 20415(e) of Title 27.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the Dischargers or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.

2. Date and time of sampling.

3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.

5. Calculation of results.

6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. Monitoring Reports

Written detection monitoring reports shall be filed by January 31 and July 31 of each year. In addition an annual report shall be filed by January 31 of each year. The reports shall be comprised of the following:

a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the Dischargers have previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the

official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:

1) A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.

2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.

3) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.

4) A written discussion of the groundwater analyses indicating any change in the quality or characteristics of the groundwater.

c. A comprehensive discussion of the compliance record and status, as well as any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the Waste Discharge Requirements and 27CCR

d. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

e. Laboratory statements with the results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and all reports of such work submitted to the Board shall be signed by a duly authorized representative of the laboratory.

1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses

must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review and approved by the Executive Officer prior to use.

2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that are outside laboratory control limits; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

f. An evaluation of the effectiveness of the leachate monitoring facilities, which includes an evaluation of leachate buildup within the disposal units and sump areas, a summary of leachate volumes removed from the units, and a discussion of the leachate disposal/treatement methods utilized.

g. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.

h. The quantity and types of waste disposed of during each quarter of the reporting period, and the locations of the disposal operations. Locations of the waste placement shall be depicted on a map showing the area, if any, in which the filling has been completed during the previous calender year.

i. A summary statement describing the findings from the Dischargers: periodic load checking/screening program, waste characterization program, and any other observational/inspection programs.

j. Tabular and graphical summaries of the monitoring data obtained during the previoius year; the report should be accompanied by a 3 ½" computer data disk, MS-EXCEL format, tabulating the year's data.

k. The Annual Monitoring Report shall be submitted to the Board covering the previous year. The Report shall include, but is not limited to, the following:

i. A graphical presentation of the analytical data [RWQCB-approved alternate procedure per 27CCR, Section 20415(e)(14)] for monitoring locations that have shown detectable concentrations during two consecutive monitoring events, or greater than ten

percent detection frequency for any organic compound. Graphical representation must be provided for monitoring locations with metals and general chemistry analytical parameters that have an increasing trend for three consecutive monitoring events;

ii. A tabular summary of all the monitoring data obtained during the previous year;

iii. A comprehensive discussion of the compliance record, and the corrective actions taken or planed which may be needed to bring the dischargers into full compliance with the waste discharge requirements;

iv. A map showing the area, if any, in which filling has been completed during the previous calendar year;

v. A written summary of the groundwater analyses indicating any change in the quality of the groundwater; and

vi. An evaluation of the effectiveness of the leachate monitoring/control facilities, which includes an evaluation of leachate buildup within the disposal units, a summary of leachate control volumes removed from the units, and a discussion of the leachate disposal methods utilized.

2. **Contingency Reporting**

a. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days thereafter. This report shall contain the following information:

1) a map showing the location(s) of discharge if any;
2) approximate flow rate;
3) nature of effects; i.e. all pertinent observations and analyses; and
4) corrective measures underway, proposed, or as specified in the Waste Discharge Requirements.

b. Following determination that groundwater analytical results or a monitoring location exceed the WQPS concentration limits (CLs), the discharger shall follow the decision sequence in Figure 2 for any monitoring locations still exceeding the CLs.

3. **Well Logs**

A boring log and a monitoring well construction log shall be submitted for each new sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 45 days after well installation.

G. WATER QUALITY PROTECTION STANDARDS

1. Constituents of Concern: The Constituents of Concern (COC) for groundwater are those listed in Table 1 of this Self-Monitoring Program.

2. Concentration Limits: Concentration Limits (CLs) have been established for each COC listed in Table 1. These CLs are shown in Table 2. The CLs were developed from the approved Class II WMF Corrective Action Groundwater Monitoring Program (CAGMP) submitted by the Dischargers. The CLs were set at the PQLs for most SVOCs and VOCs. CLs were set above the PQLs for certain constituents that were: 1) common laboratory contaminants (acetone, methylene chloride, bromoform, chloroform, toluene, phthalates, phenol); 2) dereived from field sampling equipment and materials; and 3) periodically detected in some wells as a result of COC migration prior to implementation of corrective measures or as result of the presence of waste fill outboard of containment structures. The CLs are well below water quality criteria for San Pablo Bay and Creek and therefore are protective of human health and the environment.

3. Monitoring Points: Monitoring Points for the Class II WMF are identified in Table 1 of this Self-Monitoring Program. Because landfill operations predate collection of groundwater chemistry data at this site, background water quality monitoring locations do not exist; therefore, intra-well comparisons will be used for evaluating monitoring data. For those areas where COCs greater than the CLs existed prior to corrective measures, monitoring will be conducted to demonstrte that the levels of COCs have either stabilized or are decreasing.

4. Point of Compliance: The Point of Compliance for this facility is the vertical surface that extends from the outside edge of the lateral containment structures through the uppermost aquifer underlying the unit.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. GROUNDWATER, LEACHATE, AND STORMWATER MONITORING: **Report Semi-Annually (groundwater) and Annually (Leachate and Surface Water)**

i. **Groundwater**: Groundwater shall be sampled and analyzed as detailed in Table 1. Monitoring well locations are shown in Figure 1. CLs for groundwater sampled at the monitoring wells are shown in Table 2.

ii. **Leachate**: Leachate and seeps shall be sampled and analyzed as detailed in Table 3. Leachate monitoring locations are shown in Figure 1. The Discharger shall analyze for all Subtitle D, Appendix II compounds not listed in Table 3, once every five years.

iii. **Surface Water**: Surface water monitoring data collected under the SWRCB's Industrial Activities Storm Water General Permit or for discharge of surface water runoff from retention basins shall be submitted with the winter/spring (wet) season semi-annual monitoring report due each July 31. The report shall include the standard storm water annual report forms, a map of the storm water monitoring locations, and any summary data tables or attachments, as appropriate. Analytical laboratory data reports need not be included.

B. WASTE MONITORING - **Observe monthly unless otherwise noted, report semi-annually**

i. Record the total volume and weight of waste in cubic yards and tons disposed of at the site during each month, and show locations and dimensions on a map.

ii. Record a description of waste stream to include percentage of waste type (ie. municipal solid waste, construction and demolition waste, asbestos-containing waste, medical waste, and industrial waste including: (i) asbestos, (ii) ash, (iii) treated auto-shredder waste (TASW), (iv) petroleum contaminated soil, (v) lead contaminated soils, (vi) sewage and wastewater treated sludges with metal content, (vii) industrial sludges, and (viii) industrial filters.

iii. Remaining landfill capacity/waste volume in place at the end of the reporting period.

iv. TASW accepted for disposal shall be sampled and analyzed quarterly for: PCBs (EPA Method 8080) and for soluble lead, mercury, cadmium, trivalent and hexavalent chromium copper, nickel, and zinc (by WET Method).

C. FACILITIES MONITORING - **Observe Quarterly, report Semi-annually**

The Discharges shall inspect all facilities to ensure proper and safe operation once per quarter and report semi-annually. The facilities to be monitored shall include, but not be limited to:

1. Leachate collection and removal/pumping system
2. Surface water impoundments/retention basins
3. Leachate management facilities and secondary containment
4. Perimeter diversion channels and run-on/run-off control features
5. Final cover system
6. Re-use areas including the composting and soil recycling locations

D. PHOTO DOCUMENTATION OF FACILITIES MONITORING - **Observe quarterly, report annually**

The Dischargers shall provide photo documentation of conditions at locations that include, but are not limited to the landfill facilities listed in Part B.1.C above. Locations from which photographs are taken should be permanent stations such that they can be used in successive reports.

E. ON-SITE OBSERVATIONS

Station	Description	Observations	Frequency
V-1 to V-'n'	Located on the waste disposal area as delineated by a 500 foot grid network.	Standard observations for the waste management unit	Bi-monthly observations (rainy season) Monthly observations (dry season) **Report Semi-annually**
P-1 thru P-'n'	Located at equidistant intervals not	Standard observations for the perimeter	Bi-monthly observations (rainy season) Monthly observations

exceeding 1000 feet around the perimeter of the waste management unit.		dry season) **Report Semi-annually**

F. SEEPAGE MONITORING

Seepage monitoring stations include any point at which seepage is found occurring from the disposal area. The landfill perimeter shall **be monitored quarterly and the results reported semi-annually**.

Station	Description	Observations	Frequency
S-1 thru S-'n'	At any point(s) at which seepage is found occurring from the disposal area	Standard observations for the perimeter and standard analyses (Table 3, perform analyses once per seep	Daily until remedial action is taken and seepage ceases

G. PIEZOMETER/LEACHATE ELEVATION MONITORING

1. Groundwater piezometric elevation monitoring shall be conducted at the following locations on a quarterly basis:

   Surficial Zone: E-34R, M-25, M-47, M-48, M-49, M-50, M-51, M-58, M-59, M-60, M-61, M-62, M-63, M-64, M-65, M-66, M-67, M-68, M-69, M-70, MPZ-1, Q-3, Q-9, Q-11.
   Shallow Zone: M-4, M-6, M-9, M-16R, m-22, M-24, M-26, M-27, M-41, M-43, M-45, M-52, M-53, M-54, M-56, M-57, M-73, M-74.
   Medium Zone: E-21R, M-23, M-42, M-44, M-46, M-55, M-71, M-72.

2. Leachate elevation monitoring shall be conducted at the following locations on a quarterly basis:

   Leachate Wells: QR-2, QR-3, QR-5, QR-6, QR-7S, QR-8, QR-12, QR-15S, QR-16, QR-17S, QR-20S, QR-21S, QR-22S, QR-23, QR-24S, QR-25S, QR-26, QR-27, QR-28S, QR-29S, QR-31S, QR-32S, QR-33S, QR-36, QR-37, QR-38, QR-39, QR-43.

H. LEACHATE EXTRACTION MONITORING

1. The Dischargers shall report daily, weekly, monthly, and average rates for pumping/removal of leachate from the total system and monthly and average daily rates for each pump area. This information will be provided with the semi-annual monitoring report.

2. Included with each semi-annual report will be an evaluation of the effectiveness of pumping on reduction of leachate levels throughout the WCCCSL Class II WMF.

3. All surface leachate extraction lines and storage structures shall be double contained.

I. LANDFILL GAS CONDENSATE

Landfill gas condensate removed from the landfill's gas collection system shall be transported for disposal at a wastewater treatment or leachate treatment facility. For each condensate monitoring point, the Dischargers shall include in the **semi-annual monitoring report** a measurement of the estimated volume of condensate collected, and the **monthly** and **average daily condensate volumes** for each condensate collection point.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. R2-2002-0066.

2. Is effective on the date shown below.

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.

Loretta K. Barsamian
Executive Officer

Date Ordered: June 19, 2002

Attachments: Table 1 - Groundwater Monitoring Points, Parameters and Sampling Frequency
Table 2 - Concentration Limits for Groundwater
Table 3 - Leachate and Seepage Monitoring Points

Figure 1 - Monitoring Well Location Map
Figure 2 - Flow Chart for procedures to Follow in the Event Concentration Limits (CLs) are Exceeded

Table 1 - Groundwater Monitoring Points, Parameters and Sampling Frequency
West Contra Costa County Sanitary Landfill

Monitoring Wells	Analytical Parameters	Sampling Frequency[1,2]
E-22 Area Wells[3] **Surficial WBZ**: E-34R, M-70, M-47 **Shallow WBZ**: M-73, M-74 **Medium WBZ**[4]: E-21R, M-71, M-72 **Class II WMF Wells**[5] **Surficial WBZ**: Group 1: M-58, m-50, M-60, M-62, M-64, M-66, M-68 Group 2: M-48, M-59, M-51, M-61, M-63, M-65, M-67, M-69 **Shallow WBZ**: M-4, M-45, M-27, M-52 M-54, M-55, M-22, M-57 M-41, M-43, M-9, M-6 M-53, M-16R, M-56 M-24 **Medium WBZ**: M-55	**VOCs**: EPA Method 8260 **SVOCs**: EPA Method 8270 **Dissolved Metals**[6, 9]: Arsenic, Barium Cadmium, Copper, Chromium, Lead Mercury, Nickel, Vanadium, Zinc **Additional Metals**[7]: Antimony, Beryllium, Cobalt, Selenium, Silver, Thallium, Tin **General Water Quality Parameters**: pH, Ammonia (total and unionized) **40 CFR 258 Appendiz II constituents**: Pesticides & PCBs: EPA Method 8080 Chlorophenoxy Herbicides: EPA Method 8151 Cyanide: EPA Method 9010 Sulfide: EPA Method 9030	**VOCs and pH** **E-22R Area Wells**: Semi-annual **Class II WMF Surficial WBZ wells**: Semi-annual for until unward hydraulic gradient across the slurry walls or bay mud barrier is consistently maintained for 1 year[8], then annual thereafter for Group 1 wells (1st half of year) and Group 2 wells (second half of year) **SVOCs** Once every 5 years **Dissolved Metals** Semi-annually until background established, then once every 5 years **40 CFR 258 Appendix II constituents**: **E-22 Area Wells**: Once every 5 years **Class II WMF Surficial WBZwells:** Once every 5 years until inward hydraulic gradient is consistently maintained across slurry walls and bay mud barriers; discontinue thereafter if no organic constituents are detected above CLs **Class II WMF Shallow and medium WBZ wells**: Once every 5 years

Table 1 Notes:

[1]See Figure 2 for procedures to follow when CLs are exceeded

[2]Sampling for the first semi-annual event of the year is typically performed, weather permitting, during the first month of the first quarter

[3]Wells in the E-22R Area are sampled semi-annually and analytical results are reported under both the HWMF and Class II CAGMPs

[4]Medium WBZ Well M-55 is screened in the first WBZ below the M-17/21 slurry wall (ie. the wall cuts off the surficial and shallow WBZs at that location)

[5]Class II WMF wells other than those in the E-22R area.

[6]EPA methods: Arsenic (7060 or 6010), Barium (6010), Chromium (6010), Copper (6010), Lead (7421 or 6010), Mercury (7470), Nickel (6010), Vanadium (6010), Zinc (6010)

[7]EPA methods: Antimony (6010), Beryllium (6010), Cobalt (6010), Selenium (7741 or 7740), Silver (6010), Thallium (7841), Tin (6010)

[8]During routine sampling, Group 1 and 2 wells are sampled during first half and second half of the year, respectively

[9]This subset of the 40 CFR 258 Appendix I metals is used as a surrogate for the entire suite of Appendix I metals

Table 2 - Concentration Limits for Groundwater
West Contra Costa County Sanitary Landfill
(See Figure 2 for procedures to follow when CLs are exceeded

Constituent of Concern	Practical Quantitation Limit	US EPA Test Method	Concentration Limits (ppb)
Specified VOCs		8260	
Acetone	20		100
Methylene chloride	10		50
Bromoform	10		50
Chloroform	10		50
Benzene	10		30
Toluene	10		50
Ethylbenzene	10		50
Xylene	10		50
Other VOCs	varies	8260	PQLs
Specified SVOCs		8270	
Phthalates	10		100
bis(2thylhexyl)	10		50
butylbenzyl	10		50
di-ethyl	10		50
di-methyl	10		50
di-n-butyl	10		50
di-n-oxtyl	10		50
Phenol	10		100
Other SVOCs	varies	8270	PQLs
Metals[1]			
Arsenic	7	7060 or 6010	PQL/Background[2]
Barium	20	6010	PQL/Background[2]
Cadmium	5	6010	PQL/Background[2]
Chromium	10	6010	PQL/Background[2]
Copper	10	6010	PQL/Background[2]
Lead	5	7421 or 6010	PQL/Background[2]
Mercury	1	7470	PQL/Background[2]
Nickel	40	6010	PQL/Background[2]
Vanadium	10	6010	PQL/Background[2]
Zinc	20	6010	PQL/Background[2]
Antimony	5	6010	PQL/Background[2]
Beryllium	5	6010	PQL/Background[2]
Cobalt	10	6010	PQL/Background[2]

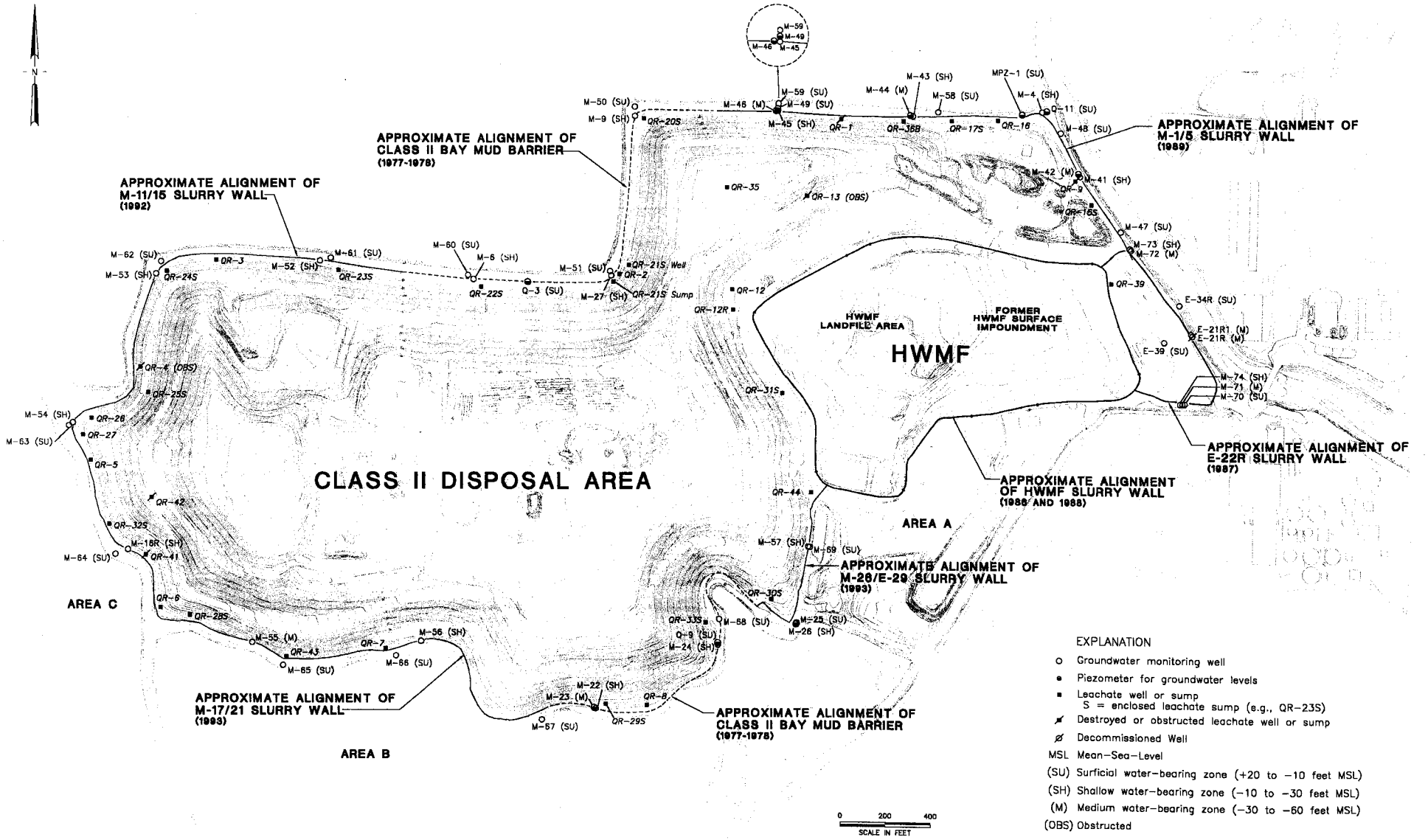
Selenium	10	7740 or 7741	PQL/Background[2]
Silver	20	6010	PQL/Background[2]
Thallium	5	7841	PQL/Background[2]
Tin	50	6010	PQL/Background[2]
Pesticides and PCBs	varies		PQLs
Chloropheynoxy Herbicides	varies		PQLs
Cyanide	10		PQLs

Table 2 notes:
[1]PQLs may vary based on the results of the laboratory's annual MDL survey and any sample dilution required because of matrix interferences. Metals data will provide supplemental information to the VOC and SVOC analyses and are not intended for use as indicator parameters apart from the VOC and SVOC analyses.

[2]Concentration Limit is the higher of either the routine PQL or the background value.

Table 3 - Leachate and Seepage Monitoring Points, Parameters and Sampling Frequency - West Contra Costa Class II Landfill

Monitoring Location	Analyses	EPA Method (or equivalent)	Sampling Frequency
Leachate well/sump: QR-17S, QR-21S, QR 22S, QR-15S, E-39 and Leachate discharge (sump) locations	VOCs	8260	Leachate wells- Annually Leachate discharge (seep) - Each occurrence; daily until remedial action is taken or seep ceases
	SVOCs	8270	
	Dissolved Metals		
	Arsenic	7060 or 6010	
	Barium	6010	
	Cadmium	6010	
	Copper	6010	
	Chromium	6010	
	Lead	7421 or 6010	
	Mercury	7470	
	Nickel	6010	
	Vanadium	6010	
	Zinc	6010	
	pH	9040	
	Ammonia (total and unionized)	350.1	
	Cyanide	335.2	
	Pesticides/PCB	8080	
Leachate discharge (seep) locations only	Total Oil and Grease	SM5520B	
	COD	410.1	
	96-hour Toxicity Bioassay using Mysid Shrimp	N/A	



Topographic base map ...mpiled using photogrammetric methods.
Date of photography: June 2001.

C2WMF03.DWG 12/19/01 G. Hoffner

REV	DATE	DESCRIPTION	DRN BY	DES BY	CHK BY	APP BY
DATE OF ISSUE: Dec. 2001			DRN BY:	DES BY:	CHK BY:	APP BY:

Pegasus Geoscience

WEST COUNTY LANDFILL, INC.
WEST CONTRA COSTA SANITARY LANDFILL
CLASS II WASTE MANAGEMENT FACILITY
RICHMOND, CALIFORNIA
CORRECTIVE ACTION GROUNDWATER MONITORING PROGRAM MONITORING LOCATIONS

FIGURE NO. 1
PROJECT NO. 122.02.01

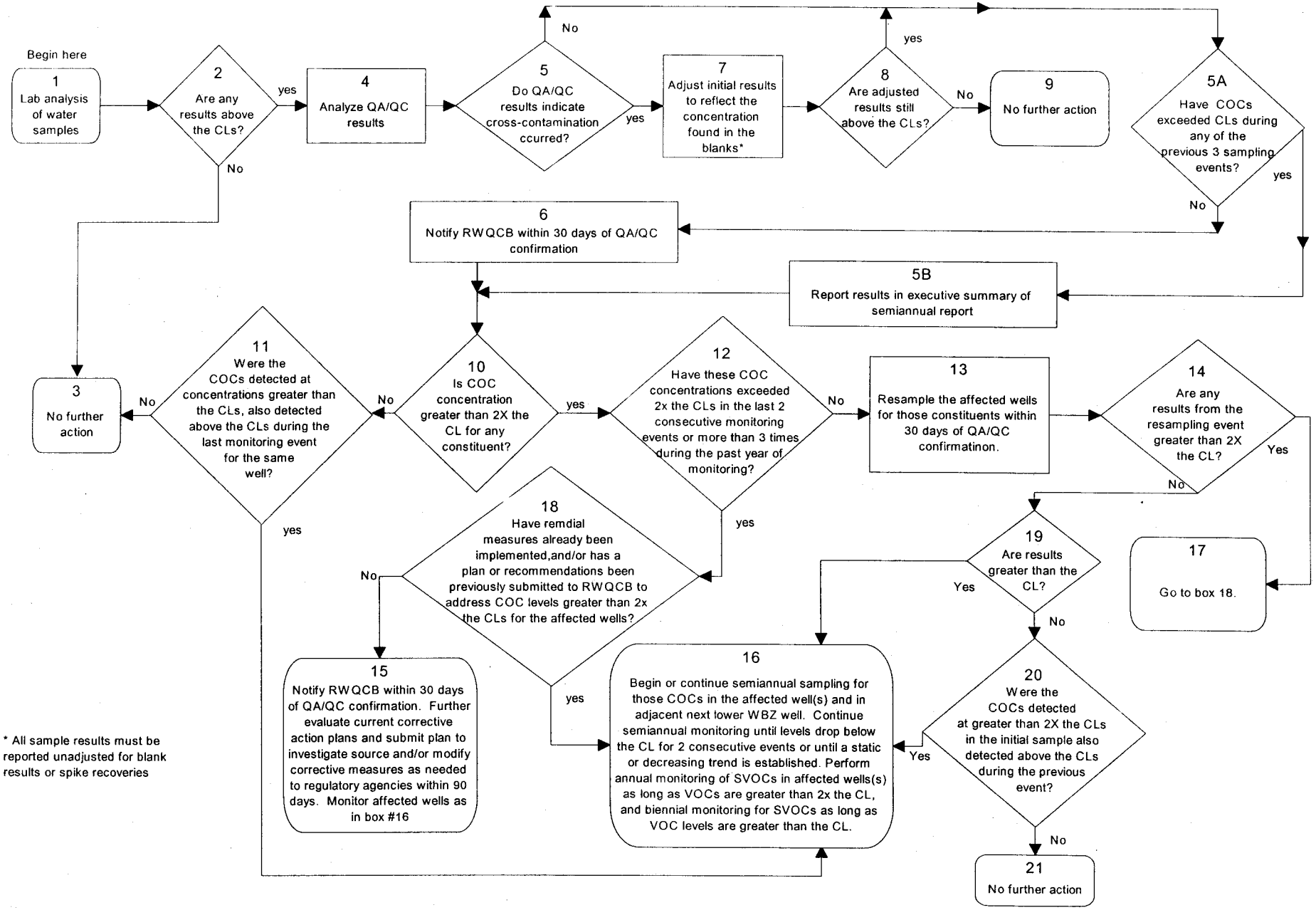


FIGURE 2. WEST CONTRA COSTA SANITARY LANDFILL, CLASS II WASTE MANAGEMENT FACILITY
GROUNDWATER MONITORING PROGRAM
FLOW CHART FOR PROCEDURES TO FOLLOW IN THE EVENT CONCENTRATION LIMITS (CLs) ARE EXCEEDED